

Please add Claims 11-60:

11. A power converter, comprising:
a power transformer having a plurality of windings;
a clamping circuit, coupled to said power transformer, that limits a voltage across at least
one of said plurality of windings during a clamping interval of said power converter; and
a synchronous rectification device coupled to said power transformer and having a control
terminal responsive to a signal across at least one of said plurality of windings such that said
synchronous rectification device is active for substantially all of said clamping interval.

12. The power converter as claimed in claim 11 wherein said clamping circuit is
directly connected to said power transformer.

13. The power converter as claimed in claim 11 wherein said clamping circuit is
coupled to a primary winding of said power transformer.

14. The power converter as claimed in claim 11 wherein said power transformer has a
center-tapped secondary winding.

15. The power converter as claimed in claim 11 further comprising a power switch
that connects a primary winding of said power transformer to an input of said power converter
during a first cyclic interval of said power converter.

16. The power converter as claimed in claim 11 further comprising a further
synchronous rectification device, coupled to said power transformer, that is active during a first
cyclic interval of said power converter.

17. The power converter as claimed in claim 11 further comprising a rectification
device, coupled to said power transformer, that is active during a first cyclic interval of said
power converter.

18. The power converter as claimed in claim 11 wherein said clamping circuit
comprises a switching device connected in series with a capacitor.

19. The power converter as claimed in claim 18 further comprising a control circuit
that controls said switching device.

20. The power converter as claimed in claim 11 wherein said power converter operates
in one of:
a forward mode,
a flyback mode, and
a forward/flyback mode.

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21. A power converter, comprising:
a power transformer having a plurality of windings;
a synchronous rectification device coupled to at least one of said plurality of windings and
having a control terminal; and
a clamping circuit, coupled to said power transformer, that limits a voltage applied to said
control terminal such that said synchronous rectification device is active for substantially all of a
clamping interval.

22. The power converter as claimed in claim 21 wherein said clamping circuit is
directly connected to said power transformer.

23. The power converter as claimed in claim 21 wherein said clamping circuit is
coupled to a primary winding of said power transformer.

24. The power converter as claimed in claim 21 wherein said power transformer has a
center-tapped secondary winding.

25. The power converter as claimed in claim 21 further comprising a power switch
that connects a primary winding of said power transformer to an input of said power converter
during a first cyclic interval of said power converter.

26. The power converter as claimed in claim 21 further comprising a further
synchronous rectification device, coupled to said power transformer, that is active during a first
cyclic interval of said power converter.

27. The power converter as claimed in claim 21 further comprising a rectification
device, coupled to said power transformer, that is active during a first cyclic interval of said
power converter.

28. The power converter as claimed in claim 21 wherein said clamping circuit
comprises a switching device connected in series with a capacitor.

29. The power converter as claimed in claim 28 further comprising a control circuit
that controls said switching device.

30. The power converter as claimed in claim 21 wherein said power converter operates
in one of:
a forward mode,
a flyback mode, and
a forward/flyback mode.

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31. A power converter, comprising:
a power transformer having a plurality of windings;
a synchronous rectification device having a control terminal and coupled to at least one of
said plurality of windings; and
a clamping circuit, coupled to said power transformer, that limits a voltage applied to said
control terminal such that said synchronous rectification device conducts a load current for
substantially all of a clamping interval.

32. The power converter as claimed in claim 31 wherein said clamping circuit is
directly connected to said power transformer.

33. The power converter as claimed in claim 31 wherein said clamping circuit is
coupled to a primary winding of said power transformer.

34. The power converter as claimed in claim 31 wherein said power transformer has a
center-tapped secondary winding.

35. The power converter as claimed in claim 31 further comprising a power switch
that connects a primary winding of said power transformer to an input of said power converter
during a first cyclic interval of said power converter.

36. The power converter as claimed in claim 31 further comprising a further
synchronous rectification device, coupled to said power transformer, that is active during a first
cyclic interval of said power converter.

37. The power converter as claimed in claim 31 further comprising a rectification
device, coupled to said power transformer, that is active during a first cyclic interval of said
power converter.

38. The power converter as claimed in claim 31 wherein said clamping circuit
comprises a switching device connected in series with a capacitor.

39. The power converter as claimed in claim 37 further comprising a control circuit
that controls said switching device.

40. The power converter as claimed in claim 31 wherein said power converter operates
in one of:
a forward mode,
a flyback mode, and
a forward/flyback mode.

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41. A power converter, comprising:
a power transformer having a plurality of windings;
a synchronous rectification device having a control terminal responsive to a drive signal
and coupled to at least one of said plurality of windings; and
a clamping circuit, coupled to said power transformer, that limits said drive signal applied
to said control terminal such that said drive signal is continuous for substantially all of a clamping
interval.

42. The power converter as claimed in claim 41 wherein said clamping circuit is
directly connected to said power transformer.

43. The power converter as claimed in claim 41 wherein said clamping circuit is
coupled to a primary winding of said power transformer.

44. The power converter as claimed in claim 41 wherein said power transformer has a
center-tapped secondary winding.

45. The power converter as claimed in claim 41 further comprising a power switch
that connects a primary winding of said power transformer to an input of said power converter
during a first cyclic interval of said power converter.

46. The power converter as claimed in claim 41 further comprising a further
synchronous rectification device, coupled to said power transformer, that is active during a first
cyclic interval of said power converter.

47. The power converter as claimed in claim 41 further comprising a rectification
device, coupled to said power transformer, that is active during a first cyclic interval of said
power converter.

48. The power converter as claimed in claim 41 wherein said clamping circuit
comprises a switching device connected in series with a capacitor.

49. The power converter as claimed in claim 48 further comprising a control circuit
that controls said switching device.

50. The power converter as claimed in claim 41 wherein said power converter operates
in one of:
a forward mode,
a flyback mode, and
a forward/flyback mode.

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51. A power converter, comprising:
an input that accepts a DC voltage;
an output that provides current to a load;
a power transformer having at least one primary winding and at least one secondary winding;
a power switch that periodically connects said input to said at least one primary winding during a first cyclic interval of said power converter;
a clamping circuit that limits a voltage across said at least one secondary winding during a clamping interval of said power converter; and
a synchronous rectification device having a control terminal responsive to a signal across said at least one secondary winding such that said synchronous rectification device is active for substantially all of said clamping interval.

52. The power converter as claimed in claim 51 wherein said clamping circuit is directly connected to said power transformer.

53. The power converter as claimed in claim 51 wherein said clamping circuit is coupled to said at least one primary winding of said power transformer.

54. The power converter as claimed in claim 51 wherein said at least one secondary winding has a center-tap.

55. The power converter as claimed in claim 51 further comprising a voltage limiting device coupled to said synchronous rectification device.

56. The power converter as claimed in claim 51 further comprising a further synchronous rectification device, coupled to said power transformer, that is active during a first cyclic interval of said power converter.

57. The power converter as claimed in claim 51 further comprising a rectification device, coupled to said power transformer, that is active during a first cyclic interval of said power converter.

58. The power converter as claimed in claim 51 wherein said clamping circuit comprises a switching device connected in series with a capacitor.

59. The power converter as claimed in claim 58 further comprising a control circuit that controls said switching device.

60. The power converter as claimed in claim 51 wherein said power converter operates in one of:

- a forward mode,
- a flyback mode, and
- a forward/flyback mode.

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